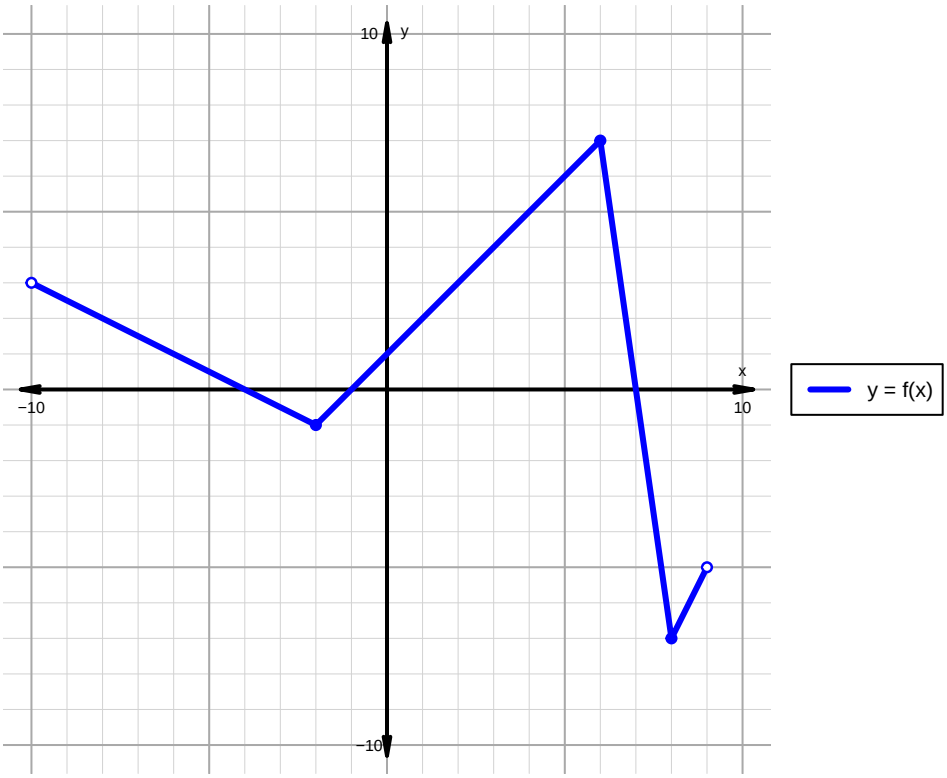
Name: Date:

Intervals, Transformations, and Slope Solution (version 151)

1. The function f is graphed below.



Indicate the following intervals using interval notation. Remember, you can use $\cup$ between two intervals to indicate the union. Except for range, all intervals will indicate x values; this is standard.

Feature	Where
Positive	$(-10,-4)\cup(-1,7)$
Negative	$(-4,-1)\cup(7,9)$
Increasing	$(-2,6)\cup(8,9)$
Decreasing	$(-10,-2)\cup(6,8)$
Domain	$(-10,9)$
Range	$(-7,7)$

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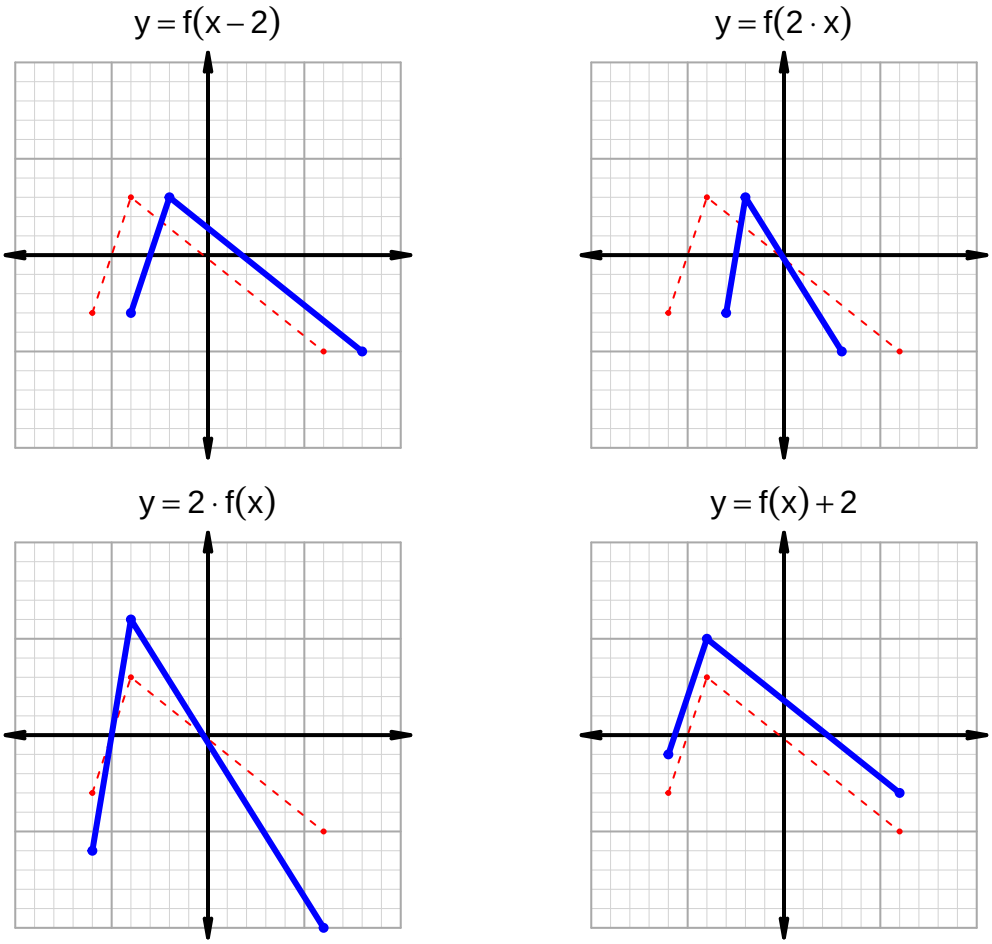
2. In the four graphs below, $y = f(x)$ is graphed as a dotted line. With a solid line, please graph the transformations indicated by the equations below.



3. Let function g be defined by the table below. Use the formula $\frac{g(x_2)-g(x_1)}{x_2-x_1}$ to find the average rate of change between $x_1 = 34$ and $x_2 = 88$. Express your answer as a reduced fraction.

x	$g(x)$
4	34
34	49
49	88
88	4

$\frac{g(88)-g(34)}{88-34} = \frac{4-49}{88-34} = \frac{-45}{54}$

The greatest common factor of -45 and 54 is 9. Divide numerator and denominator by the greatest common factor.

$$\text{AROC} = \frac{-5}{6}$$